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10/615,622

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Dietrich W. Vook

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EXAMINER

SELBY, GEVELL V

ART UNIT

PAPER NUMBER

2622

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/615,622

**Applicant(s)**

VOOK ET AL.

**Examiner**

Gevell Selby

**Art Unit**

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-11, 13-17 and 19-21 is/are rejected.
- 7) ☒ Claim(s) 6, 12, 18 and 22-29 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.
2. Applicant's arguments filed 3/5/07 have been fully considered but they are not persuasive. The applicant submits the prior art does not disclose the following limitations of the claimed invention:

a focus adjuster operable to deform the focus adjustment structure to move the lens whereby light is focused onto the image sensor, as stated in claim 13. The Examiner respectfully disagrees.

#### **Examiner's Reply:**

Re claim 13) The Ohta reference discloses a focus adjuster in the form of the control circuit (13) and the air surrounding the focus adjustment structure (104a) wherein when the temperature changes the focus adjustment structure is deformed, defocusing the lens and correction coefficients are used to adjust focus and when the temperature changes back, the focus adjuster is operable to deform the focus adjustment structure to move the lens whereby light is focused onto the image sensor and the correction coefficients are not needed (see column 7, lines 25-29).

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**4. Claims 1-11, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Kitazawa, US 6,067,421.**

In regard to claim 1, Kitazawa, US 6,067,421, discloses a method of making a camera module, comprising:

providing a sensor housing comprising an image sensor (see figure 14 and column 9, lines 6-29),

a lens holder (see figure 14, element 12) comprising a lens (see figure 14, elements 13 and 4 and column 9, lines 14-19), and

a deformable focus adjustment structure (see figure 15, element 10 and column 9, lines 6-15 and 41-65); and

permanently deforming the focus adjustment structure to move the lens to focus light onto the image sensor (see abstract).

In regard to claim 2, Kitazawa, US 6,067,421, discloses the method of claim 1, wherein the focus adjustment structure comprises a material shrinkable in response to energy, and deforming the focus adjustment structure comprises applying energy to at least some of the shrinkable material (see column 9, lines 41-65).

In regard to claim 3, Kitazawa, US 6,067,421, discloses the method of claim 2, wherein the focus adjustment structure comprises heat shrink material, and deforming the focus adjustment structure comprises heating at least some of the heat shrink material (see column 9, lines 41-65: it is inherent in the Kitazawa reference that applying the

voltage to deform the piezoelectric or shrink material causes the material to heat up, since heat is released in the energy transfer).

In regard to claim 4, Kitazawa, US 6,067,421, discloses the method of claim 3, wherein at least some of the heat shrink material is heated by contact with a heating element (see column 9, lines 50-65: It is inherent the Kitazawa reference discloses wiring or some conductor to supply the voltage to the piezoelectric or shrink material wherein the wiring or conductor reads on the heating element).

In regard to claim 5, Kitazawa, US 6,067,421, discloses the method of claim 3, wherein it is inherent in the Kitazawa reference that at least some of the heat shrink material is heated by radiant energy in the air surrounding the material.

In regard to claim 7, Kitazawa, US 6,067,421, discloses the method of claim 2 wherein the shrinkable material is disposed uniformly about an optical axis of the lens (see figure 15, element 10).

In regard to claim 8, Kitazawa, US 6,067,421, discloses the method of claim 7, energy is applied uniformly to the uniformly disposed shrinkable material reduce a distance separating the lens and the image sensor (see column 9, lines 54-55).

In regard to claim 9, Kitazawa, US 6,067,421, discloses the method of claim 7, wherein it is inherent the energy in the ambient air is applied asymmetrically to the uniformly disposed shrinkable material to adjust where the optical axis intersects the image at times when the air is flowing from one direction thus causing the material to expand or contract, adjusting where the optical axis intersects the image sensor.

In regard to claim 10, Kitazawa, US 6,067,421, discloses the method of claim 2, further comprising guiding the lens holder (12) while applying energy to at least some of the shrinkable material (see column 9, lines 41-65).

In regard to claim 11, Kitazawa, US 6,067,421, discloses the method of claim 1, wherein the lens holder is a monolithic structure (see figure 14, element 12).

In regard to claim 21, Kitazawa, US 6,067,421, discloses a camera module, comprising:

an image sensor disposed within a sensor housing (see figure 14, element 16);

a lens holder(see figure 14, element 12) comprising a lens (see figure 14, element 13 or 14 and column 9, lines 14-19); and

a focus adjustment structure (see figure 15, element 10) disposed between the lens holder and the sensor housing (see column 9, lines 6-15 and 41-65),

wherein the focus adjustment structure is deformed until light passing through the lens is focused onto the image sensor (see abstract).

**5. Claims 13-17, and 19-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Ohta, US 5,895,129.**

In regard to claim 13, Ohta, US 5,895,129, discloses a system for making a camera module, comprising:

a camera module holder (it is inherent the camera module is encased in a housing to hold all the component) operable to hold a camera module comprising an image sensor (see figure 1, element 18) disposed within a sensor housing and a lens holder (see figure 1, element 2) attached to the sensor housing, the lens holder comprising a lens (see figure 1, element 104) and a deformable focus adjustment structure (see figure 1, element 104a); and

a focus adjuster operable to deform the focus adjustment structure to move the lens whereby light is focused onto the image sensor (see column 7, lines 25-29).

In regard to claim 14, Ohta, US 5,895,129, discloses the system of claim 13, wherein the focus adjustment structure comprises a material shrinkable in response to energy material (see column 7, lines 25-34: the holding members are formed of a material that expands and contracts or shrinks due the change in heat or applied energy), and the focus adjuster (see figure 1, element 6) is operable to apply energy to at least some of the shrinkable material (it is inherent the heat generated by the motor applies energy to the material).

In regard to claim 15, Ohta, US 5,895,129, discloses the system of claim 14, wherein the focus adjustment structure comprises heat shrink material (see column 7, lines 25-34: the holding members are formed of a material that expands and contracts or shrinks due the change in heat or applied energy), and the focus adjuster is operable to heat at least some of the heat shrink material (it is inherent the heat generated by the motor applies energy to the material).

In regard to claim 16, Ohta, US 5,895,129, discloses the system of claim 15, wherein it is inherent the focus adjuster (see figure 1, element 6) of the Ohta reference comprises a heating element operable for heating at least some of the heat shrink material, because the motor gives off heat when operating.

In regard to claim 17, Ohta, US 5,895,129, discloses the system of claim 15, wherein it is inherent the focus adjuster (see figure 1, element 6) of the Ohta reference discloses comprising a radiant energy source for heating at least some of the heat shrink material because the motor gives off heat when operating.

In regard to claim 19, Ohta, US 5,895,129, discloses the system of claim 14 wherein the shrinkable material is disposed uniformly about an optical axis of the lens (see figure 1, element 104a: the holding member is positioned uniformly on both sides of the lens) and the focus adjuster is operable to uniformly apply energy to the uniformly disposed shrinkable material to reduce a distance separating the lens and the image sensor (see column 4, line 66 to column 5, line 8).

In regard to claim 20, Ohta, US 5,895,129, discloses the system of claim 14 wherein the shrinkable material is disposed uniformly about an optical axis of the lens see figure 1, element 104a: the holding member is positioned uniformly on both sides of the lens) and the focus adjuster is operable to asymmetrically apply energy to the uniformly disposed shrinkable material to adjust where the optical axis crosses the image sensor (see column 4, line 66 to column 5, line 8).

*Allowable Subject Matter*

6. Claims 6, 12, 18, 22-26, and 27-29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Conclusion*

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gevell Selby whose telephone number is 571-272-7369. The examiner can normally be reached on 8:00 A.M. - 5:30 PM (every other Friday off).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivek Srivastava can be reached on 571-272-7304. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

gvs



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